

Title: Challenges and Strategies for Sustaining TPS/Entry Technology in the era of focused projects and programs

Abstract: The challenges that faces entry technologist, especially in Thermal Protection System, are one of providing robust and cost-effective solutions to missions that are infrequent, and yet meet the mission planners and science community expectation of having the capabilities and expertise readily available to enable these future missions. In this presentation, we will review NASA's past history in this regard and look at current mission drivers and challenges that are being addressed in the TPS technology area via project-focused developments both for the Mars and Human Exploration projects. Current Crew Exploration Vehicle (CEV) design and development, which is key to enable NASA's vision of Moon, Mars and beyond, is clearly benefiting from the past planetary missions. Future planetary missions can equally benefit from the current investment to varying degree in a large number of scenarios. In other cases, up-front investment is needed in order to have enabling capability readily available from emerging technology areas. Strategic planning is needed in order to maintain current infrastructure and expertise as well as develop new ones that can enable future missions. This talk will address these possible strategies the TPS technology community need to pursue in order to enable both the near term missions and longer term vision.

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